0017

OK

ENERGY WEST Mining Co.
PO Box 310
Huntington, Utah 84528

April 29, 2002

Incoming
C015017

Utah Coal Program
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Subject: **Response to Deficiencies in the Des Bee Dove Mine, Phase 2 Reclamation Plan, PacifiCorp, Des Bee Dove Mine, C015/017-AM01D, Emery County, Utah**

PacifiCorp, by and through its wholly-owned subsidiary, Energy West Mining Company ("Energy West") as mine operator, hereby submits responses to the deficiencies of the Des Bee Dove Mine Phase 2, Reclamation Plan. The original application was submitted October 15, 2001. Energy West received the deficiencies in the document dated on January 15, 2002.

The reviewer must note that much of the assessments, and analyses were conducted to produce results for the entire reclamation site (Phase 1 and Phase 2 areas) at the Des Bee Dove Mine. Most information is referenced to Appendix XIV Phase 1 Reclamation Plan Volume. Please keep on hand a copy of the Appendix XIV Phase 1 Reclamation Plan to expedite the review.

The attached document attempts to answer the deficiencies in the order they were received. The Division's findings will be first listed by regulation and explanation. Energy West will follow by a response in *italics*.

Accompanying this letter are seven (7) copies of deficiency responses. Also accompanying this submittal are amendments to the Des Bee Dove Mine Phase 2, Reclamation Plan required by the January 15, 2001 Technical Analysis. Included as part of this submittal are seven (7) binders entitled "Appendix XVI Phase 2 Reclamation Plan" as well as the C1/C2 form for their placement into the reclamation plan. Phase 2 Reclamation Plan has been completely reformatted to include; revised cut/fill mass balance based on reconstructed slopes at 2H:1V, substitute soil excavation/placement and revised base maps printed on a larger scale. Please return the binders submitted on October 15, 2001 entitled "Phase 2 Reclamation Plan Round 1".

Huntington Office:
(801) 687-9821
Fax (801) 687-2695
Purchasing Fax (801) 687-9092

Deer Creek Mine:
(801) 381-2317
Fax (801) 381-2285

Cottonwood Mine:
(801) 748-2319
Fax (801) 748-2380

One copy has been sent to the Price Field Office for there review. If you have any questions or concerns regarding this amendment, please contact me at 435-687-4720 or Dennis Oakley at 435-687-4825.

Sincerely,

Charles A. Semborski
Permitting/Geology Supervisor

Enclosure: Response to Technical Analysis Deficiencies
C1/C2 Forms for placement into Phase 2, Reclamation Plan
Redline/Strikeout Table of Contents for Volume 1
Redline/Strikeout binder entitled "Appendix XVI Phase 2 Reclamation Plan"
Special Inserts for Volume 2, Part 4 and Appendix XVI, Phase 2 Volume

Cc: Carl Pollastro (EWMC, w/o encl.)
Scott Child (IMC, w/o encl.)
File

Form DOGM - C1 (Last Revised February 10, 2000)

APPLICATION FOR PERMIT PROCESSING

Permit Change ✓	New Permit ☐	Renewal ☐	Transfer ☐	Exploration ☐	Bond Release ☐	Permit Number: **C/015/017**

Title of Proposal: **Response to Deficiencies in the Des Bee Dove Mine, Phase 2, Reclamation Plan, PacifiCorp, Des Bee Dove Mine, C015/017-AM01D,**

Mine: **Des-Bee-Dove Mines**

Permittee: **PacifiCorp**

Description, include reason for application and timing required to implement:

Instructions: *If you answer yes to any of the first 8 questions (gray), this may be a Significant Revision and require Public Notice. Any questions, please call a Permit Supervisor.*

✓ Yes	☐ No	1. Change in the size of the Permit Area? _____ acres Disturbed Area? 0.39 acres ✓ increase ☐ decrease.
☐ Yes	✓ No	2. Is the application submitted as a result of a Division Order? DO #
☐ Yes	✓ No	3. Does application include operations outside a previously identified Cumulative Hydrologic Impact Area?
☐ Yes	✓ No	4. Does application include operations in hydrologic basins other than as currently approved?
☐ Yes	✓ No	5. Does application result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes	✓ No	6. Does the application require or include public notice/publication?
☐ Yes	✓ No	7. Does the application require or include ownership, control, right-of-entry, or compliance information?
☐ Yes	✓ No	8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
☐ Yes	✓ No	9. Is the application submitted as a result of a Violation? NOV #
☐ Yes	✓ No	10. Is the application submitted as a result of other laws or regulations or policies? Explain:
☐ Yes	✓ No	11. Does the application affect the surface landowner or change the post mining land use?
☐ Yes	✓ No	12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2?)
☐ Yes	✓ No	13. Does the application require or include collection and reporting of any baseline information?
☐ Yes	✓ No	14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
✓ Yes	☐ No	15. Does application require or include soil removal, storage or placement?
✓ Yes	☐ No	16. Does the application require or include vegetation monitoring, removal or revegetation activities?
✓ Yes	☐ No	17. Does the application require or include construction, modification, or removal of surface facilities?
✓ Yes	☐ No	18. Does the application require or include water monitoring, sediment or drainage control measures?
✓ Yes	☐ No	19. Does the application require or include certified designs, maps, or calculations?
☐ Yes	✓ No	20. Does the application require or include subsidence control or monitoring?
☐ Yes	✓ No	21. Have reclamation costs for bonding been provided for?
☐ Yes	✓ No	22. Does application involve a perennial stream, a stream buffer zone or discharges to a stream?
☐ Yes	✓ No	23. Does the application affect permits issued by other agencies or permits issued to other entities?

✓ **Attach 7 complete copies of the application.**

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Charles S. Semborski — Charles A. Semborski — Geology/Permitting Supervisor — 4/29/02
Signed - Name - Position - Date

Subscribed and sworn to before me this 29th day of April, 2002.

Lori Ann Anderson
Notary Public

My Commission Expires: 12/22/2005
Attest: STATE OF Utah
COUNTY OF Emery

LORI ANN ANDERSON
NOTARY PUBLIC • STATE of UTAH
31 NORTH MAIN
HUNTINGTON, UT 84528
COMM. EXP. 12-22-2005

Received by Oil, Gas & Mining
RECEIVED
MAY 02 2002
DIVISION OF
OIL, GAS AND MINING
ASSIGNED TRACKING NUMBER

Form DOGM - C2 (Last Revised February 1, 2000)

Application for Permit Processing
Detailed Schedule of Changes to the MRP

Title of Application: **Response to Deficiencies in the Des Bee Dove Mine, Phase 2 Reclamation Plan, PacifiCorp, Des Bee Dove Mine, C015/017-AM01D, Emery County, Utah**

Permit Number: **C/015/017**

Mine: **Des-Bee-Dove Mines**

Permittee: **PacifiCorp**

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit application. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	✓ REPLACE	☐ REMOVE	Replace: Volume 1, Table of Contents Section (Redline/strikeout version)
✓ ADD	☐ REPLACE	☐ REMOVE	Add Special Insert at Beginning of Volume 2, Part 4
☐ ADD	✓ REPLACE	☐ REMOVE	Replace Separate Volume Entitled "Phase 2 Reclamation Plan - Round 1" Submitted on October 15, 2001, With New Binder Entitled "Appendix XVI Phase 2 Reclamation Plan"
			Please Return Phase 2 Reclamation Plan - Round 1 Binder to Energy West Mining Company
☐ ADD	☐ REPLACE	☐ REMOVE	
✓ ADD	☐ REPLACE	☐ REMOVE	Add Special Insert at Beginning of Volume 2, Part 4, and Phase 2 Volume
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
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Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

RECEIVED

The following responses to deficiencies are formatted as found in the technical analysis document. They are broken down into logical section headings similar to the R645 regulations. In each section, the regulation number along with the associated deficiency is follow by the permittee's italicized response.

GENERAL CONTENTS

Permit Application Format and Contents

R645-301-121.200, The proposed Phase 2 Reclamation Plan contains information that contradicts information in the approved Mining and Reclamation Plan (MRP) and in the Phase 1 submittal. The Permittee must resolve this contradiction. The MRP must contain references to (1) the newly created appendix in Volume 1 Table of Contents (2) Volume 2, Part 4, Reclamation Plan and (3) in Volume 4 Reclamation of the Mining and Reclamation Plan. The newly created appendix must be numbered.

The Table of Contents in Volume 1 has been amended to show location of Appendix XIV Phase I and Appendix XVI Phase 2 Reclamation plans. Reference pages (or notices) are placed in Part 4 to reference both Phase 1 and Phase 2 plans in their respective appendices. C1/C2 forms thoroughly explain placement and references in the MRP.

R645-301-121.200, The Permittee must provide an index, C2 form or other way to show how Phase 1 and 2 Reclamation Plan will be placed in the MRP.

See previous deficiency response.

R645-301-121.200, The Permittee must provide an explanation of how to interpret the cut and fill data provided in Appendix C in Section R645-500. The meaning of Appendix D in R645- 500 must be clarified.

The Phase 2 portion of the Des Bee Dove reclamation plan was subcontracted to an independent contractor. Upon close review of the mass balance table in Appendix C, the permittee and the Division found erroneous errors. The permittee contacted the subcontractor to correct the mass balance and the cut and fill slopes configurations. The corrections have been completed and a new corrected cut and fill estimation is presented in R645-301-500 Appendix C. Maps 500-1 through 500-4 in R645-301-500: Engineering have been revised with all reconstructed slopes at 2V:1H or less.

The permittee is unsure what the Division wants in their statement that the meaning of Appendix D must be clarified. Appendix D provides data for constructing slopes at the Des Bee Dove site that will achieve a safety factor of 1.3. The data are based on conservative estimates of the shear strength parameters since lab examination of the fill material was not conducted. The slope stability report is basically a blueprint of how fills should be constructed. Based upon the results of the Phase 1 Reclamation Project, slope stability can be achieved by compacting the

individual lifts a minimum of four passes with a rubber tired dozer or sheepsfoot Final slope preparation (blending 2H:1V slope to the cutwall) was accomplished with a track hoe. Compaction was applied as horizontal lifts. Lifts did not exceed specifications listed in RB&G's Slope Stability Analysis.

Reporting of Technical Data

R645-301-130, Information provided in Appendix XIV must include the name and affiliation of the soil scientist who collected the soils data.

Appendix XIV now includes a reference to Appendix XIV Phase 1 Reclamation Plan for the all information subject to the substitute topsoil assessment at the Des Bee Dove mine site. At the time of Appendix XIV submittal, substitute topsoil assessment used previous historical soil sampling and analysis in various location. These analyses found no toxic/acid-forming materials except for localized areas where salts (sodium, calcium, magnesium) were high. The Division felt the procedures they previously required were not adequate to properly assess soil resources of the Des Bee Dove mine area. The permittee agreed to excavate a series of trenches in strategic locations throughout the proposed reclamation area. A resource survey was conducted by soil scientist Dan Larsen. At the completion of this project a report describing the soil resources of the area was incorporated into the Phase 1 reclamation plan. The results of the survey varied little from the historical soil sampling and analysis.

ENVIRONMENTAL RESOURCE INFORMATION

Historic and Archeological Resource Information

R645-301-411.140, The application must address the potential for this site to be eligible to the National Register of Historic Places

The permittee has committed (Historic and Archeological Resource, R645-301-411.140) to retaining historical structures related to the early development of coal mining in the area. Structures proposed to be retained include; wooden remnants of the first coal mine owned/operated by the LDS Church, the original wagon road (retained as part of the East Mountain Cattle Access Trail), and walls of hand cut stone long the old wagon road. All other mine structures were demolished during the demolition phase of reclamation in the fall of 1999.

It would seem if there were interest in nominating the site to be listed, it would have already been done. PacifiCorp publically gave its intention to reclaim the Des Bee Dove mine site in 1997. No enity (public or private) came forward to express an interest in nominating the Des Bee Dove mine site as to be listed on the historic register. At the time of surface demolition, (fall of 1999), nearly all of the surface structures were less than 40 years old, except for those items listed above.

The historical structures listed above are located on PacifiCorp property. As part of the nomination process, the property owner must agree on the nomination for listing. As mentioned in the TA, an archeological survey was conducted in 1980 by AERC. The report submitted by AERC found no cultural resource in the reclamation area of the Des Bee Dove mine site.

The only change under Historic and Archeological Resource, R645-301-411.140, page 2 or R645-301-400: Land Use and Air Quality, will be the reference to Figure 1. The reference states "(refer to R645-301-400 Figure 1 and ...)." The reference now states "(refer to Appendix XIV Phase 1 Reclamation Plan Volume, R645-301-400, Figure 1 and ...)."

FISH AND WILDLIFE RESOURCE INFORMATION

R645-301-322, the application must provide current information about golden eagle nest 952.

Volume 5, Appendix XIV, Phase 1 Reclamation Plan provides a raptor nest location map and status sheet. This information is referenced on page 1 of the Biology Section in the Phase 2 plan. The most current data available is the data collected during raptor flights over the area in May, 2001. Our information indicates the nest 952 is inactive.

Work at the Des Bee Dove mine site began in early February before roosting season. It is suspected that the nest is still inactive since no sightings have been made. Raptor flights will be conducted this year again in May. These investigations will confirm the nest's status.

No changes have been made concerning this deficiency.

Soils Resource Information

R645-301-122, Please provide to the Division a copy of the soil survey report for the Des Bee Dove Mine site by Dr. A.R. Southard, as referenced in the submittal.

This report was submitted with the Des Bee Dove Mine Phase 1 Reclamation Plan and can be reviewed in Appendix XIV Phase 1 Reclamation Plan R645-301-200: Soils, Appendix B, Historical Soil Survey Data. Reference to the historical data has been added to Appendix XVI.

Land-use Resource Information

R645-301-411, Please add a description of the use of the cattle trail by locals to reenact the settlement of Huntington.

A brief description of this type of use is described under Historic and Archeological Resource (R645-301-411.140).

Maps, Plans, and Cross Sections of Resource Information

R645-301-140, Proposed Drawing #: CS1813E, Surface Yard Area Pre/Post SMCRA Development Map, Sheet No. 500-1, Channel Reclamation, and Sheet No. 500-3, Reclamation Sections Location must all show the same disturbed area boundary.

The above referenced drawings have been revised to show the same disturbed area boundary (refer to Appendix XIV Phase 1 Reclamation Plan Engineering Section for Pre/Post SMCRA Development Map).

Operation Plan

Topsoil and Subsoil

R645-301-233 and R645-301-121.100, Incorporate the response to AM01C (NOV 01-7-1-1 Abatement information) into the submittal and supply the soils information gathered (field notes and laboratory analysis as well as consultants analysis of the information) from the abatement plan into the submittal. Utilize this information to provide information on volumes of waste, volumes of potential substitute topsoil, locations of substitute topsoil, designated mine waste burial locations, designated topsoil placement locations, and depth of topsoil placement.

Results of the substitute soil investigation have been incorporated and approved in Appendix XIV Phase 1 Reclamation Plan. Appropriate sections in the Phase 2 plan have been revised to include a reference to Appendix XIV Phase 1 Reclamation Plan, R645-301-200 Soils Section Appendix C. In addition, the Soils Section has been revised to include a Soil Trenching and Management Plan, which details the location and estimated volumes of substitute soils and the Engineering Section has been revised to include a commitment to bury coal waste excavated during Phase 2 either in the Bathhouse soil trenches and used in the development of the pad slope.

R645-301-121.200, Please explain the statement made on page 12 Section 240 that growth media segregated during the valley fill excavation project will be used as the final fill cover (section 240 Reclamation Plan, page 12). Since there was no growth material salvaged during the valley fill excavation project (see N.O.V. 01-7-1-1) the meaning of this statement is unclear.

R645-301-200 Soils Section has been revised to exclude the referenced statement.

Spoil and Waste Materials

R645-301-553.252, Provide a statement that all coal mine waste will be covered with four feet of non acid/ non toxic material.

Regulation R645-301-553-252 deals specifically with refuse piles. The term "refuse pile" means a surface deposit of coal mine waste that does not impound water, slurry, or other liquid or semi-liquid material. The term "coal mine waste" means coal processing waste and underground development waste.

The terms coal processing and underground development waste are also defined definitions within the Utah Coal Regs. However, it is the permittee's interpretation these terms (including refuse pile or coal mine waste) do not exist within the Phase 1 and Phase 2 areas at the mine site. Page 33 of the January 15, 2002 TA states " There are no spoil or coal refuse piles relative to this site."

There are minor coal spills throughout the Phase 1 and Phase 2 areas. These spills existed prior to the passage of SMCRA. It is the permittee's intent to bury all material in a controlled manner to ensure that revegetation will not be affected and that the post mining land use will be supported. Therefore, the statement on page 9 of the Phase 2 volume will remain unchanged.

R645-301-731.311, Identify burial locations of all acid/toxic forming materials.

R645-301-700 has been revised to state: Based on the soil trenching project completed for Phase 1 and 2, all sample analysis for the Phase 2 area were considered suitable for substitute soil, except for coal material which tested fair to good in most respects but is considered unsuitable for having high total organic carbon (TOC) content (refer to Appendix XIV Phase 1 Reclamation Plan: Soil Section Appendix C). Material with a high carbon content excavated during the backfill and grading process will be hauled to the bathhouse pad buried in the excavated soil trenches or used to develop pad slope (refer to R645-301-731.300 ACID AND TOXIC-FORMING MATERIALS)

R645-301-542.730, Provide the calculated volume of the waste to be backfilled and buried in the fill as well as the volume of fill required to cover the waste (R645-301-553.252 and 553.300.

Results of the substitute soil investigation have been incorporated and approved in Appendix XIV Phase 1 Reclamation Plan. Appropriate sections in the Phase 2 plan have been revised to include a reference to Appendix XIV Phase 1 Reclamation Plan, R645-301-200 Soils Section Appendix C. In addition, the Soils Section has been revised to include a Soil Trenching and Management Plan, which details the location and estimated volumes of substitute soils and the Engineering Section has been revised to include a commitment to bury coal waste excavated during Phase 2 either in the Bathhouse soil trenches and used in the development of the pad slope.

RECLAMATION PLAN

Protection of Fish, Wildlife, and Related Environmental Values

R645-301-358, The Operator must commit to the restrictions concerning the eagle protection.

The permittee began certain reclamation operations at the mine site prior to the February 7, 2002 restriction date. No activity has been noticed near the nest location.

Approximate Original Contour Restoration

R645-301-553, The Permittee must clarify what maximum slope gradients will be utilized in the reclamation of the main access and ancillary access roads.

Drawing 500-2, Section 9 has been changed to be consistent with the RB&G Slope Stability Report. The specified text now states "(2:1 or flatter)."

R645-301-553, The Permittee must also commit to conducting and verifying the compaction of the backfill materials to at least 90% of the maximum laboratory density as determined by ASTM D 1557-91.

R645-301-553 states (in reference to fill construction) that "Disturbed areas will be backfilled and graded to: -553.130. Achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long-term static safety factor of 1.3 and prevents slides, ..."

The permittee has committed to complying to the recommendations of the slope stability consultant RB&G Engineering Inc. Their recommendations (refer to Appendix C in Phase 1) are to place all minus 4" to 8" material in lifts not exceeding 1 foot and compact the material to an in-place unit weight equal to 90% of the maximum laboratory density as determined by ASTM 1557-91. Using these methods should (in their professional opinion) produce stable slopes achieving a safety factor of at least 1.3. The permittee should not, however, be held to the 90% compaction, but only to the 1.3 safety factor as required by the Utah Coal Regulations.

Energy West contracted RB&G to provide on-site a geotechnical engineer during Phase 1 to observe fill construction and to conduct density tests and proctors. Based upon the results of the Phase 1 Reclamation Project, slope stability can be achieved by: appling horizontal lifts of material not exceeding 1 foot and compacting the individual lifts a minimum of four passes with a rubber tired dozer or sheepsfoot. Final slope preparation (blending 2H:1V slope to the cutwall) was accomplished with a track hoe.

Engineering Section: R645-301-542 No. 5 Backfill and Grading, has been revised to include an commitment to the compaction technics developed during the Phase 1 reclamation.

R645-301-553, The Permittee must incorporate into the reclamation plan the information from the trenches dug in the facilities and portal areas the week of December 3. Areas of coal fines, fill and bedrock should be included and incorporated into the engineering analysis.

Section R645-301-200 in the Phase 1 Reclamation Plan includes information concerning the soil trenching project, substitute topsoil assessment by EIS Environmental and Engineering Consulting, Soil Management Plan, and soil sample analysis for the Phase 1 and Phase 2 areas. This information was approved for incorporation into the Phase 1 Volume on March 6, 2002. Incorporating this information in Phase 2 would be redundant and unnecessary, therefore, this information will be referenced only in the Phase 2 Volume.

Backfilling and Grading

R645-301-542, Cross sections 0+00, 1+00, and 2+00 show portions of the reclaimed slope will be outside of the currently established disturbed area perimeter, either the backfilling and grading should be modified or include the areas in the disturbed area map according to the R645 coal rules.

All maps with reference to the disturbed boundary have been revised to acknowledge the expansion of the disturbed boundary (approximately 0.39 acres). As a result of the Phase 2 Reclamation, the disturbed boundary will be exceeded in two areas shown on all maps.

R645-301-542, Drawing 500-2 and the cross sections on Drawing 500-4 should be labeled to designate what fill areas are to be rock fill and what are to be earth fill. Slope gradients should also be depicted for the specific reclamation areas.

All reconstructed fill within the Phase 2 reclamation area have been redesigned to not exceed a slope 2H:1V.

R645-310-535, Determine the total volume of fill required to raise the level of the main drainage in the "Valley Fill" location and show sources of fill in Appendix C in Section R645-500 and on the cross-sections of Sheet 500-1 and 500-3 and 500-4.

Engineering Section R645-301-542 No. 7 Reestablished Major Drainages has been revised to state:
Lower Section: *Length ±1,164' of reconstructed riprap channel.*
A riprap lined drainage channel capable of handling a one hundred (100) year six (6) hour storm event will be established.

Prior to ripraping the channel, the existing area will be filled-raised to attain stability of the adjacent reconstructed side slopes. This will be accomplished by filling & compacting approximately 47,000 yards^3 of material (yardage estimate includes riprap thickness).

Topsoil and Subsoil

R645-301-233, Please provide information from the trenching activity conducted during the week of December 3, 2001 and utilize the information to present a coherent plan for substitute topsoil salvage and redistribution.

The trenching project during the week of December 3, 2001 is presented in the Appendix XIV Phase 1 Reclamation Plan. Specific sections within the Phase 2 plan reference this information in the Phase 1 Volume. When reviewing this submittal, please have the Phase 1 Volume on hand to expedite your review.

Hydrologic Information

R645-301-761, -730, 742.312, -742.314, The Procedural Steps of Reclamation Table in Section 540 of the Phase I amendment states that sieve analysis will be done to assure riprap gradation meets design criteria: there is no analogous statement in the Phase 2 amendment. Clarify that sieve analysis will be done during Phase 2 to assure that riprap gradation will meet design criteria.

R645-301-500: Engineering has been amended to include sieve analysis prior to the riprap channel construction of the lower section.

R645-301-121.200, Drawing 500-2 and Appendix A show cross-sections and profiles of various structures. Drawing 500-2 refers to Drawing 500-1, but Drawing 500-1 does not show where these typical structures are located or are to be built, and it is not always clear from the text which structures are intended for specific uses. Clarify on both Drawing 500-1 and in the text the location of the structures shown on Drawing 500-2 and in Appendix A.

Maps 500-1 and 500-2 have been revised to include engineering callout references.

R645-301-731.311, Incorporate the results of the trenching soil sampling conducted during the week of December 3, 2001 to ascertain the chemical qualities of the material remaining on site and to identify potential acid/toxic forming materials requiring burial.

Section R645-301-200 in the Phase 1 Reclamation Plan includes information concerning the soil trenching project, substitute topsoil assessment by EIS Environmental and Engineering Consulting, Soil Management Plan, and soil sample analysis for the Phase 1 and Phase 2 areas. This information was approved for incorporation into the Phase 1 Volume on March 6, 2002. Incorporating this information in Phase 2 would be redundant and unnecessary, therefore, this

information will be referenced only in the Phase 2 Volume. No acid/toxic forming materials were identified in the Phase 2 reclamation area.

The only soils that were noted unacceptable for use were located in Trench 1 and Trench 1A on the Little Dove/Beehive pad (refer to Substitute Topsoil Assessment in R645-301-200: Soils, Appendix C of the Phase 1 Volume. This was an isolated area on the pad that has (to this date) been covered with at least four feet of non-toxic/non-acid forming material.

R645-301-742.312, The small drainage at the south end of the Bathhouse pad, which passes beneath the pad in a 30-inch culvert, will be reestablished. The plan does not have an engineered design or indicate the use of riprap in this reclaimed channel. Provide current and reclamation profiles for this culverted-drainage at the south end of the Bathhouse pad and the other small drainages that currently flow onto the Bathhouse pad, and clarify reclamation of these drainages.

The small subdrainage at the south end of the Bathhouse pad is considered a minor drainage system that infrequently receives overland flow. The purpose of the culverted section of the drainage was to segregate disturbed drainage from undisturbed drainage. No design is needed for this drainage system. the channel will be reconfigured to its close original topography and armored with boulder material. This armorment is only provided to mimic the natural look and to provide minimal dissipation of overland flow. All other minor drainages that pass over the bathhouse pad will be constructed in this manner (R645-301-700 has been revised to include this commitment).

R645-301-733.200, -521.169, -528.400, There is a temporary embankment or impoundment where the coal was removed from the Tipple pad. This structure is not designed or sized as a sedimentation pond, may not be stable, and might be subject to sudden failure during a large storm event. When and how this structure will be breached and removed needs to be clarified.

There is no longer a temporary embankment or impoundment below the tipple pad. A late summer storm in 2001 fill this area with sediment. Runoff from the mine site will no longer be impounded in this area. The final treatment for all runoff from the disturbed areas of the mine site is the sediment pond below.

R645-301-751, -752, There is no standard proposed to determine the success of the proposed sediment-control methods. Use RUSLE or a method more suited for the steep slopes at Des-Bee-Dove to provide an estimate of sediment contribution from reclaimed and undisturbed watersheds.

RUSLE has been used to model sediment loss from the Phase 1 and Phase 2 areas of the Des Bee Dove mine site as well as the undisturbed area surrounding the mine site. The discussion and results are addressed in the Appendix XIV Phase 1 Reclamation Plan. The modeling exercise was approved March 6, 2002. To eliminate redundancy, Phase 2 reclamation plan will reference this information in the Phase 1 Volume.

Revegetation

R645-301-341.300, The Permittee must demonstrate that revegetation according to the proposed plan will meet the requirements of R645-301-350. Providing a map detailing areas of rock fill and providing a percentage cover estimate of the extent of rock fill exposed on the surface may help the demonstration.

Phase 2 Reclamation Plan has been redesigned so that all reconstructed slopes will not exceed 2H:1V.

R645-301-341.300, The Permittee must demonstrate that revegetation according to the proposed plan will meet the requirements of R645-301-350. At cross section 10+00 a 1.2h:1v cut is shown. The plan must describe how the soil surface will be prepared and vegetated on this steep of a slope

Phase 2 Reclamation Plan R645-301-350: Performance Standards, has been revised to state:

As evident on Map 500-4, minor cut/natural slopes will be developed which exceed 2H:1V. These isolated areas will receive the same slope preparation as the reconstructed fill slopes (roughening-pocking, seeding and mulching).

R645-301-355, the application must describe the surface mulch to be used when broadcast seeding with a hurricane spreader

The Biology Section, Seeding Techniques, in the Phase 2 reclamation plan has been amended to reflect the techniques used in the Phase 1 reclamation plan. Seeding Techniques (R645-301-341) in the Biology Section of the Phase 2 reclamation plan has been revised to include a commitment that all revegetated areas will be hydromulched.

Stabilization of Surface Areas

R645-301-244, Please utilize information from the trenching activity conducted during the week of December 3, 2001 to calculate the K-factors for soils on the surface of the slopes.

When determining the "K" factor for the disturbed areas, the permittee used soil sample analyses that were taken in close proximity of the hillslope profile. Percent very fine sand, percent silt and clay, and percent organic matter values were input into the RUSLE program. The program automatically calculates the "K" factor from these input values.

In the December, 2001 trenching project, Dan Larsen from EIS Environmental and Consulting estimated a "K" value that generalized the soil texture and permeability for the entire disturbed area. He estimated a value of <0.37. The values the permittee used were no greater than 0.394.

The difference between 0.37 and 0.39 is negligible and does not affect the sediment yield outcome.

The "K" values have been amended to 0.36 for all disturbed area sediment loss calculations in Appendix XIV R645-301-700 Hydrology: Appendix B.

Maps, Plans, and Cross Sections of Reclamation Operation

R645-301-542, all maps must contain legend. The difference between Map 500-1 and 500-3 must be made obvious or delete one of the maps.

All maps associated with Phase 2 have been revised to include map legends.

R645-301-542, Drawing # 500-2 provides a typical reclamation cross-section for the main access and ancillary access road reclamation projects, (See "Typical Road Section-9/500-1"). The map must be revised to coincide with the slope gradient recommended in the RB & G slope stability analysis.

The noted map and typical cross-section has been amended to coincide with the recommendations in the RB&G slope stability analysis report.